

position, CPU 40, hard disk(s) (not shown) and other power consuming components within computer 30 will have entered power saving modes, e.g., operating and using less than 30 watts.

In the above fashion, one or a plurality of client computers 30 may be simultaneously forced to enter a power-on state using address information broadcast by a network server. This is in contrast to the prior art use of a telephone line and modem to dial a dedicated telephone number for a given computer to remotely command the computer to power-on.

FIG. 3 depicts the various method steps used to carry out the present invention. Initially, at method step 300, it is assumed that S1 is OFF, and that no DC operating potential is coupled to node 80 of computer 30.

At step 310, if switch S1 is ON (or activated), then at step 350 DC power is coupled to CPU 40 and indeed to computer 30. If, however, CPU 40 is inactive for 30 minutes as determined by step 360, Energy Star compliance mandates that, at step 300, CPU power be interrupted, e.g., S1 returned to OFF.

Returning to step 310, even if S1 is OFF, unit 100 receives operating power and examines incoming address information communicated over line(s) 90.

Within unit 100, if a comparison match is found between the incoming address and a bit pattern known to represent a broadcast address commanding a power-on condition, step 330 returns to step 350 and the CPU power is turned ON by activating power control unit 130 via line 120. However, as noted, user-programmable logic may be provided to override turn-on, even if a broadcast match occurs. As before, at step 360, after 30 minutes of inactivity, the Star Energy-compliant client will interrupt CPU power at step 300 by causing S1 to be OFF, and by power control unit 130 to open circuit.

However, if step 330 does not result in a broadcast address match, at step 340 a determination is made by unit 100 to determine whether the incoming address represents an address commanding a power-on condition of this particular computer 30.

If an address match occurs, then at step 350 power control unit is activated, providing operating DC voltage to computer 30. However, as noted, user-programmable logic may be provided to override power-on, even if a client address match occurs. Such logic could, if desired, flexibly permit a broadcast address match but not a client address match to cause power-on, or the converse.

If, however, step 340 does not recognize the incoming address, the routine returns to step 300 and computer 30 remains off.

Modifications and variations may be made to the disclosed embodiments without departing from the subject and spirit of the invention as defined by the following claims.

What is claimed is:

1. In a peer-to-peer environment that includes a plurality of members coupled to said environment including a member that broadcasts information to at least one member whose operating voltage is switched off, a method for powering-on the switched off member, the method including the following steps:

providing each said member with an interface coupled to receive said information, at least a portion of said interface receiving operating voltage at all times and including a decoder, a comparator, and a power control unit;

said decoder decoding a first type information included in said information;

said comparator comparing decoded said first type information with at least one stored information pattern representing a power-on condition, said comparator outputting a power-on signal to said power control unit when said stored information pattern matches the decoded said first type information;

said power control unit coupled to provide operating voltage to said switched off member upon receipt of said power-on signal.

2. The method of claim 1, wherein said interface stores at least a first information pattern representing a subset of members of said environment, and a second information pattern representing a subset of said subset of members of said environment;

wherein said comparator outputs said power-on signal when the decoded said first type information matches either of said first information pattern or said second information pattern.

3. The method of claim 1, wherein said member is Energy Star compliant, and wherein collectively said decoder and said comparator consume less than 30 watts of operating power.

4. The method of claim 1, wherein said environment further includes a second member, receiving said information broadcast by the broadcasting member, whose operating voltage is switched-off, said method powering-on each said member;

said second member including a second interface coupled to receive said information, at least a portion of said second network interface receiving operating voltage at all times, said second interface including a second decoder, a second comparator, and a second power control unit; said second decoder decoding said first type information included in said information;

said second comparator comparing decoded said first type information with at least one stored information pattern representing a power-on condition, said second comparator outputting a power-on signal to said second power control unit when said stored information pattern matches the decoded said first type information;

said second power control unit coupled to provide operating voltage to said second member upon receipt of said power-on signal;

wherein each member is powered-on simultaneously when said decoded said first type information matches said stored information pattern.

5. The method of claim 1, wherein said information includes packets of binary data.

6. The method of claim 1, wherein said first type information includes binary address information.

7. The method of claim 1, wherein said interface includes a hashing algorithm executed within said interface.

8. In a peer-to-peer environment that includes a plurality of members coupled to said environment including one of said members that broadcasts information to at least a first member and a second member, each of said first and second member including an interface, at least a portion of which is operative at all times, each said interface able to store at least one type of information, and having a decoder that decodes at least one type of information, and having a power control unit controllably able to provide operating voltage to the associated said member, each of said first and second member having operating voltage switched off, a method for powering-on at least a chosen one of said first and said second member, the method including the following steps:

storing in each said interface at least one of a first type of information and a second type of information;

causing each said decoder to decode broadcast said information;

causing each said decoder to compare decoded said broadcast information against information stored in said decoder's associated said interface; and

causing said each said power control unit to power-on each said member whose decoder comparison shows a match between information stored in said decoder's associated said interface said first type of information, wherein said first type of information when decoded and successfully compared commands powering-on.

9. The method of claim 8, wherein said first type of information pattern represents a subset of members of said environment, and said second type of information pattern represents a subset of said subset of members of said environment;

wherein each said comparator outputs said power-on signal when the decoded first type of information matches either of said first information pattern or said second information pattern.

10. The method of claim 8, wherein each said member is Energy Star complaint, and wherein collectively each said decoder and associated said comparator consume less than 30 watts of operating power.

11. The method of claim 8, wherein said information includes packets of binary data.

12. The method of claim 8, wherein said first type information includes binary address information.

13. The method of claim 8, wherein each said comparator includes a hashing algorithm executed within an associated said interface.

14. In a peer-to-peer environment that includes a plurality of members coupled to said environment and includes a member that broadcasts information to at least one of said members whose operating voltage is switched off, a system for powering-on a switched off said member, the system comprising:

an interface coupled to receive said information, said interface including a decoder, a comparator, and a power control unit, said decoder, comparator and power control unit each receiving operating voltage at all times;

said decoder decoding at least a first type of information included in said information;

said comparator comparing decoded said first type information with at least one stored information pattern representing a power-on condition, said comparator outputting a power-on signal to said power control unit when a said stored information pattern matches the decoded said first type information;

said power control unit coupled to provide operating voltage to said switched off member upon receipt of said power-on signal.

15. The system of claim 14, wherein said interface stores at least a first information pattern representing a subset of members of said environment, and a second information pattern representing a subset of said subset of members of said environment;

wherein said comparator outputs said power-on signal when the decoded said first type of information matches either of said first information pattern or said second information pattern.

16. The system of claim 14, wherein each said member is Energy Star complaint, and wherein collectively for each interface said decoder and said comparator consume less than 30 watts of operating power.

17. The system of claim 13, wherein said environment further includes a second member, receiving said information broadcast by the broadcasting member, whose operating voltage is switched-off, said method powering-on each said member;

said second member including a second interface coupled to receive said information, at least a portion of said second network interface receiving operating voltage at all times, said second interface including a second decoder, a second comparator, and a second power control unit;

said second decoder decoding said first type information included in said information;

said second comparator comparing decoded said first type information with at least one stored information pattern representing a power-on condition, said second comparator outputting a power-on signal to said second power control unit when said stored information pattern matches the decoded said first type information;

said second power control unit coupled to provide operating voltage to said second member upon receipt of said power-on signal;

wherein each member is powered-on simultaneously when said decoded said first type information matches said stored information pattern.

18. The system of claim 14, wherein said information includes packets of digital data.

19. The system of claim 14, wherein said first type information includes binary address information.

20. The system of claim 14, wherein said comparator includes a hashing algorithm executed within said interface.

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